

RESEARCH MANAGEMENT PROCESS

ONTARIO MINISTRY OF THE ENVIRONMENT

**Policy and Planning Branch
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INTRODUCTION

The purpose of this document is to outline the major steps, organizational responsibilities and timing of the Ministry's Research Management Process.

The Research Management Process ensures the identification of research needs and priorities and that the designated resources are appropriately allocated. This will be achieved by the process through integration with the Ministry's Strategic Plan. Specifically, the Research Management Process will ensure that:

- . internally and externally conducted research is consistent with the Ministry's policies, goals and objectives;
- . research expenditures are consistent with research priorities;
- . research is undertaken by and administered with the appropriate Branches, Regions, Boards and Advisory Committees;
- . resources are allocated based on Ministry priorities;
- . multi-branch research programs are appropriately coordinated;
- . research findings are disseminated in a reasonable timeframe and that their implementation is encouraged; and that
- . research performance is evaluated against project objectives and for adherence to the planned timeframe.

The Ministry's research program comprises both:

- . internal research projects which are conducted by appropriate Branches or Regions with in-house budget and resource allocations; and
- . external research projects (solicited and unsolicited) which are conducted by universities and consultants and which are generally supported by grant and contract awards respectively.

The Ministry's research program does not, however, include projects coordinated by the Acid Precipitation in Ontario Study Office. Such projects are approved and funded independent of the Ministry's formal Research Management Process.

DEFINITION OF RESEARCH

Research is defined as an investigative study undertaken on a systematic basis to increase the available store of scientific and technical knowledge, and the use of this knowledge in new applications and problem solving.

Routine monitoring programs, technical surveys and the implementation of abatement measures are, by definition, excluded from the research category.

RESEARCH PLANNING AND MANAGEMENT CYCLE

STRATEGIC
PLANNING

OPERATIONAL
PLANNING

WORK PLAN
DEVELOPMENT

Step 1.

Identification
of Research
Requirements and
Development of
Research
Priorities

Step 2.

Evaluation of
Proposed
Research and
Allocation of
Resources

Step 3

Technology
Transfer

OUTPUT:

"SCIENTIFIC
RESEARCH
NEEDS"

"RESEARCH
PLAN"

"RESEARCH AND
DEVELOPMENT
INVENTORY"

TECHNOLOGY TRANSFER
CONFERENCE

ONGOING:

Review of research performance, project reports and publications, and the usefulness of research results.

STEP 1: IDENTIFICATION OF RESEARCH REQUIREMENTS AND DEVELOPMENT OF RESEARCH PRIORITIES

Description: Research requirements and priorities are determined. Consideration is given to information generated from various sources to establish a tentative budget for the allocation of research funds and the Research Needs document for the forthcoming fiscal year.

<u>TIMEFRAME</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>	<u>INPUTS</u>	<u>ACTIONS/RESULTS</u>
1A September	One day workshop to set Branch/Region research needs and priorities for the forthcoming fiscal year. Usefulness of research results and progress from past and ongoing research will be assessed in establishing updated scientific research needs.	Review by Coordinators and Research Advisory Committee (RAC)	Strategic Plan Current year's research needs MOE Research Inventory CCREM research priorities OPAC research priorities Resource allocation Internal research capacity	Updated Research Needs document. Tentative budget allocations. Tentative Research Plan.
1B November	Revise and Review Updated "Scientific Research Needs" document.	Research Management Office (RMO)	September workshop	Approval by senior management. Publish and distribute "Scientific Research Needs"

STEP 1 (Continued)

<u>TIMEFRAME</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>	<u>INPUTS</u>	<u>ACTIONS/RESULTS</u>
1C Ongoing	Feedback from liaison officers, review coordinators, line and senior management should be forwarded through the Review Coordinators to the RMO and if necessary to the RAC.	Liaison Officers; Review Coordinators; RMO; RAC.	Comments and suggestions concerning process operation	Ongoing dynamic research management.
	Feedback should include:			
	· current or required research projects;			
	· process/procedural problems; and			
	· other matters worthy of consideration.			
1D 3-5 year intervals	Complete and separate review of "Scientific Research Needs" document.	RMO	Strategic plan Workshop activity	Contemporary driving force for Research Management Process.

STEP 2: EVALUATION OF PROPOSED RESEARCH AND ALLOCATION OF RESOURCES

Description: Proposals are reviewed for technical merit and consistency with identified research needs. Innovative proposals may be considered subsequent to the setting of research priorities. Favourably reviewed proposals are measured against competing proposals for available funding. Final allocations of resources are determined for internal and external research projects.

<u>TIMEFRAME</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>	<u>INPUTS</u>	<u>ACTIONS/RESULTS</u>
2A January/ June	<p>Submission deadlines (January 15 and June 15).</p> <p>Classification and distribution of received proposals for examination by appropriate reviewers.</p> <p>The June deadline will include second priority proposals identified at the April RAC meeting.</p>	RMO	<p>New proposals;</p> <p>Previously approved projects which extend beyond one year.</p>	<p>Dissemination of proposals for technical review.</p>
2B February to March/ July to August	Review of proposals against recognized research needs and proposal evaluation criteria.	Review coordinators and technical reviewers	<p>"Scientific Research Needs" Proposals</p> <p>Review criteria</p>	Recommendations to RMO.
2C April/ September (1)	Review of proposals and recommendations for approval.	RAC RMO	<p>MOE policy and strategic plan</p> <p>"Scientific Research Needs" Coordinators review</p> <p>Tentative budget allocation</p>	Senior Management approval.

STEP 2: (Continued)

<u>TIMEFRAME</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>	<u>INPUTS</u>	<u>ACTIONS/RESULTS</u>
2D May	Prepare Annual Research Plan on basis of January deadline proposal review.	RMO	<ul style="list-style-type: none"> April approved proposals; "Scientific Research Needs"; Tentative budget (required resources) 	<ul style="list-style-type: none"> Report to Division Heads with tentative research plan.
2E May to June	Review and Approval of Annual Ministry Research Plan and required resources.	Management Committee		
2F June	Evaluation of Research Management Process, problems and procedures. One-day workshop. Revise Procedures and Policy documents.	RAC, RMO and Review Coordinators	<ul style="list-style-type: none"> Feedback from process users RMO Others 	<ul style="list-style-type: none"> Revised Policy and Procedures and distribute accordingly.
2G November	Revise Guideline for Proposal submissions.	RMO	<ul style="list-style-type: none"> Past guidelines User feedback Other proposal submission guidelines 	<ul style="list-style-type: none"> Publish and distribute "Guideline for Submission of Research Proposals"

STEP 3: TECHNOLOGY TRANSFER

Description: During this step, approved projects are monitored through to completion where semi-annual and annual reports are submitted for the Ministry's review. Research summaries are prepared and compiled into an annual research inventory. Research results are made available to the public through quarterly report lists and through reading room access to final reports on an ongoing basis. There is also ongoing contact with researchers and the research community. In early December, the Ministry holds its annual Technology Transfer Conference where selected research findings are disseminated through printed abstracts and proceedings, presentations and poster displays.

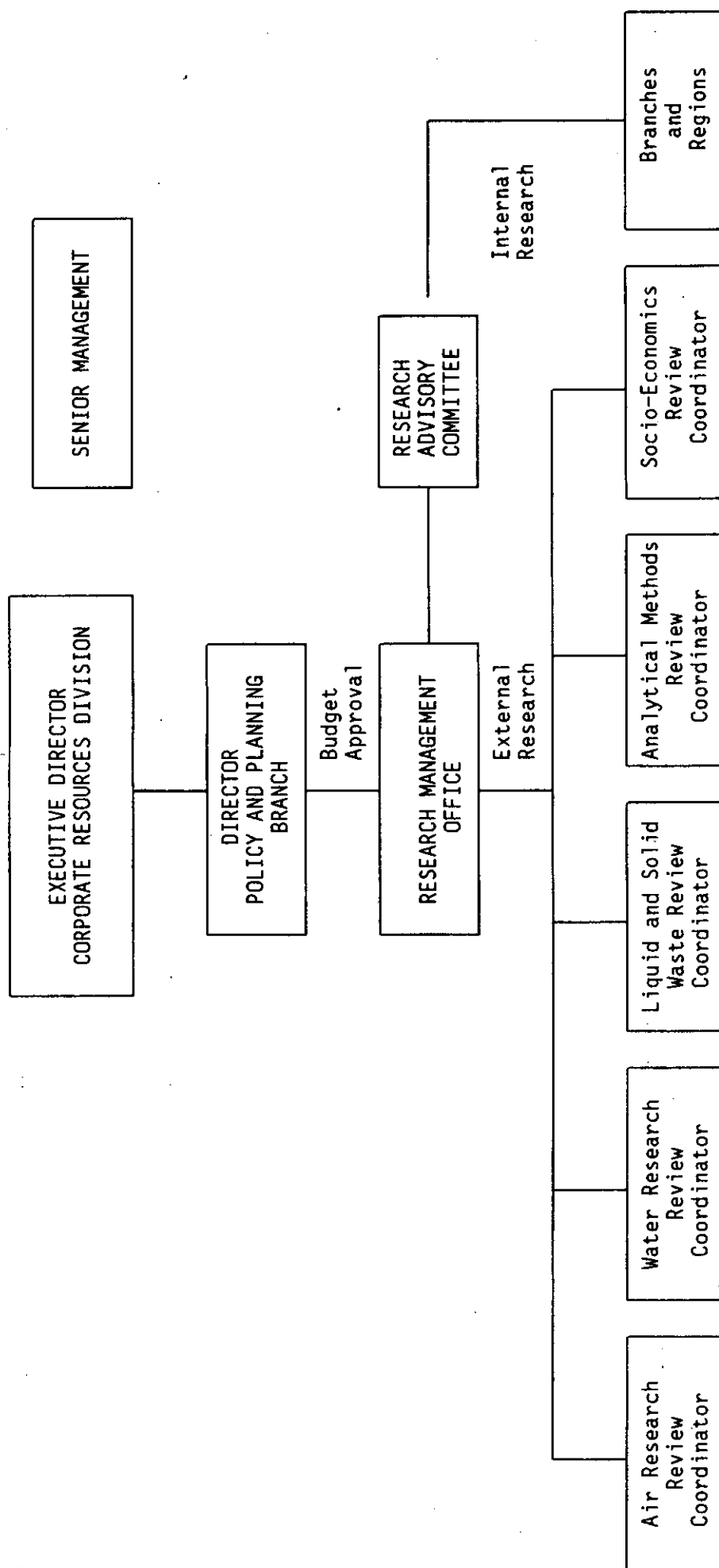
<u>TIMEFRAME</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>	<u>INPUTS</u>	<u>ACTIONS/RESULTS</u>
3A January	Presentation of past years TTC results to Division Heads	RMO	TTC file - program - feedback	Approval for next year's TTC and feedback.
3B January to October	Technology Transfer Conference (TTC) preparations*	RMO	Previous year's conference file Legal services Purchasing services Received tenders	Tender for conference proceedings administration. Award contract.
	- tentative hotel bookings (January) - prepare RFP and tender for Conference Management contract (March)			
	TTC Steering Committee meeting (March)	RMO	Feedback from last year's TTC	Proposed Program Committee membership.
	Submission of preliminary lists of proposed papers and poster sessions to RMO (May)	Liaison Officers and Review Coordinators Conference Program Committee	Consent from principal investigators	
	Final selection of papers and poster sessions and notification of principal investigators (June to July)	Conference Steering Committee and RMO	Proposal list	Tentative proceedings.

* The list of events related to the TTC is not exhaustive nor is it intended to be.

STEP 3: (Continued)

<u>TIMEFRAME</u>	<u>ACTIVITY</u>	<u>RESPONSIBILITY</u>	<u>INPUTS</u>	<u>ACTIONS/RESULTS</u>
	Organize publications and presentations for TTC, prepare advance program (July-August)	RMO Conference Program Committee	Tentative program; Communications Branch	Distribute advance program
3C August-October	Compilation of past year's funded research by category, internal/external and duration	RMO	Research Summary Reports	Development of Research Inventory
3D October	Complete and present "Scientific Research and Development Inventory" to Management Committee.	RMO/ Director, Policy and Planning Branch	Branches and Regions; Review Coordinator; RAC; OPAC.	Publish and distribute "Scientific Research and Development Inventory"
3E November	Review and printing of abstracts, papers, keynote speeches and proceedings for TTC	RMO; Review Coordinators; Liaison Officers	Speeches/abstracts and papers from conference presenters	Distribution of materials prior to and at TTC.
3F December	Technology Transfer Conference proceedings	RAC RMO Communications Branch Conference Steering Committee Review coordinators		Dissemination of research results

RESEARCH MANAGEMENT PROCESS
INFORMATION AND DOCUMENT FLOWS



FOOTNOTE: Lines do not indicate Ministry organizational structure; Lines represent information and document flows.

RESEARCH ADVISORY COMMITTEE
MEMBERSHIP

Chair: Coordinator, Research Management Office
 Policy and Planning Branch

Executive Director, Approvals and Engineering

Director, Air Resources Branch

Director, Hazardous Contaminants Branch

Director, Laboratory Services Branch

Director, Waste Management Branch

Director, Water Resources Branch

Director, Southwestern Region

Director, West-Central Region

Director, Policy and Planning Branch

Coordinator, Intergovernmental Relations

Coordinator, Acid Precipitation in Ontario Study

Director, Environmental Approvals and Land Use Planning
Branch

Regional Director, Ontario Region, Environment Canada

Ex Officio Member: Vice-Chairman, Pesticides Advisory
Committee

RESEARCH ADVISORY COMMITTEE

TERMS OF REFERENCE

1. To formulate and obtain approval for Ministry research planning and management policy.
2. To develop, update and implement procedures for the management and evaluation of research activities.
3. To define research needs, establish priorities and develop a research strategy, recommending the types of research to be undertaken by the appropriate Branches, Regions, Boards and Advisory Committees.
4. To annually recommend levels of resources which the Ministry should devote to research activities, and to promote adequate funding levels for the Ministry's ongoing research requirements and priorities.
5. To review research proposals and select and make recommendations to support suitable, high quality proposals submitted by external institutions and agencies, and by Ministry Branches, Regions, Boards and Advisory Committees.
6. To develop and update procedures for the early dissemination of research findings and to foster their implementation.
7. To ensure that research activities are consistent with Ministry policies, goals and objectives.

RESEARCH MANAGEMENT OFFICE

TERMS OF REFERENCE

1. To coordinate the identification and evaluation of the research needs of the Ministry.
2. To coordinate and administer the planned development of the Ministry's internal and external research programs conducted through various branches, regions, advisory committees and external institutions and agencies.
3. To chair and provide administrative support for the Research Advisory Committee.
4. To coordinate the activities of the Research Areas and review coordinators for Air, Water, Analytical Methods, Liquid and Solid Waste, and Socio-Economics in their roles of providing technical support and research planning input for the Ministry.
5. To monitor externally funded research performance.
6. To encourage the application of research results obtained through Ministry sponsored projects and reports to policy formulation and technology transfer.

REVIEW COORDINATORS

TERMS OF REFERENCE

1. Based on input from appropriate staff and utilizing the best available expertise, the review coordinator's role is:
 - (a) to make recommendations on the research requirements in his or her respective program area and to recommend research priorities;
 - (b) to coordinate the technical review of research proposals submitted for funding by external institutions and agencies;
 - (c) to make recommendations, based on the reviewers' comments, on the technical merit of submitted research proposals;
 - (d) to make recommendations on the suitability of internal and external research proposals relative to established Ministry research priorities.
2. To nominate a knowledgeable liaison officer for each project in their respective areas, and to ensure that the liaison officer is apprised of his or her responsibilities with respect to project progress, budget and performance monitoring.
3. To provide technical support to the Research Advisory Committee and/or the Research Management Office as required.

PROJECT LIAISON OFFICERS

TERMS OF REFERENCE

The Liaison Officer is appointed by his/her Branch/Regional Director with the approval of RAC and is committed to project management duties which include:

1. Preparation of:
 - (a) Terms of Reference and Request for Proposal for tendered projects;
 - (b) Contract or grant letter of agreement;
 - (c) Work schedule for grant or contract projects;
 - (d) Comments on the news release prepared by Communications Branch.
2. Chairing a Steering Committee for projects which receive funding in excess of \$100K per year.
3. Provision of effective liaison between MOE and Project Investigator.
4. Obtaining interim and final reports, and papers to be presented at MOE's Technology Transfer Conference and conducting an evaluation of same.
5. Requesting statements of expenditure/cash flow from universities and consultants prior to end of each MOE fiscal year, and presenting it with recommendations for continuation or termination of funding to the Research Management Office.
6. Authorization of contract invoices and obtaining Research Management Office approval of payment.
7. Obtaining through Research Management Office, approvals for any changes to a project plan or schedule.
8. Maintaining a list of major equipment purchased from grant/contract funds and ensuring its transfer together with the developed technology to MOE, or loaning to project investigator(s).
9. Making presentations at RAC or other MOE committees on final reports or project progress when requested.

10. Preparing project Scientific Research and Development Inventory forms.
11. Responding in cooperation with Communications Branch to public and media inquiries on project findings.
12. Recommending the means for technology transfer and utilization of project results as well as further research needs emerging from the project.